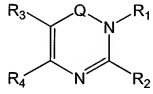
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A compound ~~comprising~~ of Formula XIX:



XIX

wherein

Q is ~~selected from the group consisting of~~ CO, ~~CS, SO, SO2, or C=NR9~~;

R_1 is -ZR_m, where Z is a moiety providing ~~1-6~~ 1 atom separation between R_m and the ring to which R_1 is attached, and -R_m is ~~selected from the group consisting of a substituted or unsubstituted (C_{3-7})cycloalkyl and~~ an-aryl substituted with a substituent selected from the group consisting of (C_{1-10})alkyl, (C_{3-12})cycloalkyl, hetero(C_{3-12})cycloalkyl, aryl(C_{1-10})alkyl, heteroaryl(C_{1-5})alkyl, (C_{9-12})bicycloaryl, hetero(C_{4-12})bicycloaryl, carbonyl (C_{1-3})alkyl, thiocarbonyl (C_{1-3})alkyl, sulfonyl (C_{1-3})alkyl, sulfinyl (C_{1-3})alkyl, imino (C_{1-3})alkyl, amino, aryl, heteroaryl, hydroxy, alkoxy, aryloxy, heteroaryloxy, carbonyl, cyano, nitro, halo, imino, sulfonyl and sulfinyl groups;

R_2 is -UV, where U is a moiety providing ~~1-6~~ 3 atom separation between V and the ring to which R_2 is attached and V comprises a primary, secondary or tertiary amine, a heterocycloalkyl comprising a nitrogen ring atom, or a heteroaryl comprising a nitrogen ring atom wherein the amine, heterocycloalkyl or heteroaryl comprises a basic nitrogen atom that is capable of interacting with a carboxylic acid side chain of an active site residue of a protein; and

R_3 and R_4 are taken together to form a ~~substituted or unsubstituted 5 or~~ 6 membered ring substituted with a substituent selected from the group consisting of hydrogen, halo, perhalo(C_{1-10})alkyl, CF_3, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, cyano, nitro, alkoxy, carbonyl, imino, sulfonyl and sulfinyl groups~~; and~~

~~R_9 is hydrogen or is selected from the group consisting of alkyl, cycloalkyl, heterocycloalkyl, arylalkyl, heteroarylalkyl, bicycloaryl, and heterobicycloaryl, each substituted or unsubstituted~~.

2. (Cancelled)

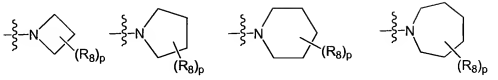
3. (Original) A compound according to claim 1, wherein R_2 is selected from the group consisting of a substituted or unsubstituted 3, 4, 5, 6 or 7 membered ring wherein at least one substituent is selected from the group consisting of a primary, secondary or tertiary amine, a heterocycloalkyl comprising a nitrogen ring atom, and a heteroaryl comprising a nitrogen ring atom.

4. (Original) A compound according to claim 1, wherein the basic nitrogen of V is separated from the ring atom to which R_2 is attached by between 1-5 atoms.

5. (Original) A compound according to claim 1, wherein the basic nitrogen of V forms part of a primary, secondary or tertiary amine.

6. (Original) A compound according to claim 1, wherein the basic nitrogen of V is a nitrogen ring atom of a heterocycloalkyl comprising a nitrogen ring atom or a heteroaryl comprising a nitrogen ring atom.

7. (Previously presented) A compound according to claim 1, wherein -UV is selected from the group consisting of



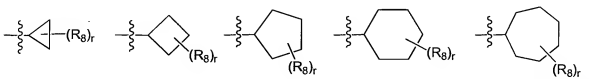
wherein p is 1-12 and each R_8 is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, hydroxy, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, alkoxy, carbonyl group, imino group, sulfonyl group and sulfinyl group, each substituted or unsubstituted, with the proviso that at least one R_8 provides the basic nitrogen of V.

8. (Original) A compound according to claim 7, wherein at least one R_8 is a primary, secondary or tertiary amine.

9. (Original) A compound according to claim 7, wherein at least one R_8 is a substituted or unsubstituted heterocycloalkyl comprising a nitrogen ring atom or a substituted or unsubstituted heteroaryl comprising a nitrogen ring atom.

10. (Original) A compound according to claim 7, wherein at least one R_8 is selected from the group consisting of $-NH_2$, $-NH(C_{1-5}$ alkyl), $-N(C_{1-5}$ alkyl)$_2$, piperazine, imidazole, and pyridine.

11. (Previously presented) A compound according to claim 1, wherein -UV is selected from the group consisting of



wherein r is 1-13 and each R_8 is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, hydroxy, alkyl, aryl, heteroaryl, aminosulfonyl,

alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, alkoxy, carbonyl group, imino group, sulfonyl group and sulfinyl group, each substituted or unsubstituted, with the proviso that at least one R_8 provides the basic nitrogen of V.

12. (Original) A compound according to claim 11, wherein at least one R_8 is a primary, secondary or tertiary amine.

13. (Original) A compound according to claim 11, wherein at least one R_8 is a substituted or unsubstituted heterocycloalkyl comprising a nitrogen ring atom or a substituted or unsubstituted heteroaryl comprising a nitrogen ring atom.

14. (Original) A compound according to claim 11, wherein at least one R_8 is selected from the group consisting of $-NH_2$, $-NH(C_{1\text{-}5}\text{ alkyl})$, $-N(C_{1\text{-}5}\text{ alkyl})_2$, piperazine, imidazole, and pyridine.

15. (Original) A compound according to claim 1, wherein R_2 is selected from the group consisting of 3-amino-piperidin-1-yl, 3-aminomethyl-pyrrolidin-1-yl, azetidin-1-yl, 3-aminoazetidin-1-yl, pyrrolidin-1-yl, 3-aminocyclopent-1-yl, 3-aminomethylcyclopent-1-yl, 3-aminomethylcyclohex-1-yl, hexahydroazepin-1-yl, 3-aminohexahydroazepin-1-yl, 3-amino-cyclohex-1-yl, piperazin-1-yl, homopiperazin-1-yl, 3-amino-pyrrolidin-1-yl, and R-3-aminopiperidin-1-yl, each substituted or unsubstituted.

16 - 18. (Cancelled)

19. (Currently amended) A compound according to claim ~~17~~1, wherein the 1 atom separation provided by Z is ~~provided by~~ a carbon atom.

20. (Currently amended) A compound according to claim ~~17~~1, wherein the 1 atom separation provided by Z is ~~provided by~~ an oxygen atom.

21. (Currently amended) A compound according to claim ~~17~~1, wherein the 1 atom separation provided by Z is ~~provided by~~ a nitrogen atom.

22. (Cancelled)

23. (Currently amended) A compound according to claim 1, wherein Z is selected from the group consisting of $-CH_2-$, -C(O)-, -C(S)-, -C(NH)-, $-C(NR_9)-$, -O-, -N(H)-, $-N(R_9)-$, and -S-, wherein R_9 is hydrogen or is selected from the group consisting of alkyl, cycloalkyl, heterocycloalkyl, arylalkyl, heteroarylalkyl, bicycloaryl, and heterobicycloaryl, each substituted or unsubstituted.

24 and 25. (Cancelled)

26. (Currently amended) A compound according to claim 1, wherein R_m is a substituted ~~or unsubstituted~~ phenyl.

27. (Currently amended) A compound according to claim 1, wherein R_m is selected from the group consisting of (2-cyano)phenyl, (3-cyano)phenyl, (2-hydroxy)phenyl, (3-hydroxy)phenyl, (2-alkenyl)phenyl, (3-alkenyl)phenyl, (2-alkynyl)phenyl, (3-alkynyl)phenyl, (2-nitro)phenyl, (3-nitro)phenyl, (2-carboxy)phenyl, (3-carboxy)phenyl, (2-carboxamido)phenyl, (3-carboxamido)phenyl, (2-sulfonamido)phenyl, (3-sulfonamido)phenyl, (2-tetrazolyl)phenyl, (3-tetrazolyl)phenyl, (2-aminomethyl)phenyl, (3-aminomethyl)phenyl, (2-amino)phenyl, (3-amino)phenyl, (2-hydroxymethyl)phenyl, (3-hydroxymethyl)phenyl, (2-phenyl)phenyl, (3-phenyl)phenyl, $(2\text{-}CONH_2)$phenyl, $(3\text{-}CONH_2)$phenyl, $(2\text{-}CONH(C_{1\text{-}7})$alkyl)phenyl, $(3\text{-}CONH(C_{1\text{-}7})$alkyl)phenyl, and $(2\text{-}CO_2(C_{1\text{-}7})$alkyl)phenyl, ~~$(3\text{-}CO_2(C_{1\text{-}7})$alkyl)phenyl, NH_2, -OH, $(C_{3\text{-}7})$alkyl, alkene, alkyne, CCH, $(C_{3\text{-}7})$cycloalkyl, and aryl,~~ each substituted or unsubstituted.

28. (Currently amended) A compound according to claim 1, wherein R_1 is $-OR_{11}$, where R_{11} is ~~selected from the group consisting of~~ a substituted ~~or unsubstituted alkyl, cycloalkyl,~~ aryl, ~~heteroaryl, heterocycloalkyl, arylalkyl, heteroarylalkyl, bicycloaryl, and heterobicycloaryl~~.

29. (Original) A compound according to claim 1, wherein Z is a carbonyl.

30. (Currently amended) A compound according to claim 1, wherein R_1 is selected from the group consisting of -(CH_2)-(2-cyano)phenyl, -(CH_2)-(3-cyano)phenyl, -(CH_2)-(2-hydroxy)phenyl, -(CH_2)-(3-hydroxy)phenyl, -(CH_2)-(2-alkenyl)phenyl, -(CH_2)-(3-alkenyl)phenyl, -(CH_2)-(2-alkynyl)phenyl, -(CH_2)-(3-alkynyl)phenyl, -(CH_2)-(2-nitro)phenyl, -(CH_2)-(3-nitro)phenyl, -(CH_2)-(2-carboxy)phenyl, -(CH_2)-(3-carboxy)phenyl, -(CH_2)-(2-carboxamido)phenyl, -(CH_2)-(3-carboxamido)phenyl, -(CH_2)-(2-sulfonamido)phenyl, -(CH_2)-(3-sulfonamido)phenyl, -(CH_2)-(2-tetrazolyl)phenyl, -(CH_2)-(3-tetrazolyl)phenyl, -(CH_2)-(2-aminomethyl)phenyl, -(CH_2)-(3-aminomethyl)phenyl, -(CH_2)-(2-amino)phenyl, -(CH_2)-(3-amino)phenyl, -(CH_2)-(2-hydroxymethyl)phenyl, -(CH_2)-(3-hydroxymethyl)phenyl, -(CH_2)-(2-phenyl)phenyl, -(CH_2)-(3-phenyl)phenyl, -(CH_2)-(2-$CONH_2$)phenyl, -(CH_2)-(3-$CONH_2$)phenyl, -(CH_2)-(2-$CONH(C_{1-7})$alkyl)phenyl, -(CH_2)-(3-$CONH(C_{1-7})$alkyl)phenyl, -(CH_2)-(2-$CO_2(C_{1-7})$alkyl)phenyl, and -(CH_2)-(3-$CO_2(C_{1-7})$alkyl)phenyl, ~~-CH_2-NH_2, -CH_2-OH, -CH_2-(C_{3-7})alkyl, -CH_2-alkene, -CH_2-alkyne, -CH_2-CCH, -CH_2-(C_{3-7})cycloalkyl, and -CH_2-aryl,~~ each substituted or unsubstituted.

31. (Currently amended) A compound according to claim 1, wherein R_1 is selected from the group consisting of -(C_1)alkyl-aryl, ~~-(C_1)alkyl-bicycloaryl, -aminoaryl, -aminoheteroaryl, -aminobicycloaryl, -aminoheterobicycloaryl,~~ -O-aryl, ~~-O-heteroaryl, -O-bicycloaryl, -O-heterobicycloaryl,~~ -(S)-aryl, ~~-(S)-heteroaryl, -(S)-bicycloaryl, -S-heterobicycloaryl,~~ -C(O)-aryl, ~~-C(O)-heteroaryl, -C(O)-bicycloaryl, -C(O)-heterobicycloaryl,~~ -C(S)-aryl, ~~-C(S)-heteroaryl, -C(S)-bicycloaryl, -C(S)-heterobicycloaryl,~~ -S(O)-aryl, ~~-S(O)-heteroaryl, -S(O)-bicycloaryl, -SO_2-heterobicycloaryl,~~ -SO_2-aryl, ~~-SO_2-heteroaryl, -SO_2-bicycloaryl, -SO_2-heterobicycloaryl,~~ and -$C(NR_9)$-aryl wherein R_9 is hydrogen or is selected from the group consisting of alkyl, cycloalkyl,

heterocycloalkyl, arylalkyl, heteroarylalkyl, bicycloaryl, and heterobicycloaryl, each substituted or unsubstituted, ~~C(NR$_9$) heteroaryl, C(NR$_9$) bicycloaryl, C(NR$_9$) heterobicycloaryl,~~ each substituted or unsubstituted.

32. (Cancelled)

33. (Currently amended) A compound according to claim 1, where R_3 and R_4 are taken together to form a substituted ~~or unsubstituted~~ phenyl ring.

34 - 35. (Cancelled)

36. (Currently amended) A compound according to claim 1, where R_3 and R_4 are taken together to form a ~~5 or 6~~-membered ring where the ring comprises at least one CO group.

37. (Currently amended) A compound according to claim 1, where R_3 and R_4 are taken together to form a ~~5 or 6~~-membered ring comprising of 1-3 nitrogen ring atoms.

38. (Currently amended) A compound according to claim 1, where R_3 and R_4 are taken together to form a ~~5 or 6~~-membered ring where the ring comprises a sulfur atom.

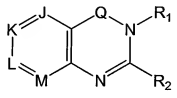
39. (Original) A compound according to claim 38, wherein the ring sulfur atom is in an oxidized form as SO or SO_2.

40. (Original) A compound according to claim 1, wherein the ring formed by R_3 and R_4 comprises substituents that form a ring fused to the ring formed by R_3 and R_4.

41. (Original) A compound according to claim 1, wherein R_3 and R_4 are taken together to form a ring system such that the compound of Formula XIX formed is selected from the group consisting of substituted or unsubstituted 4-oxo-4H-quinazoline, 3H-pyrido[2,3-d]pyrimidin-4-

one, 3H-pyrido[3,2-d]pyrimidin-4-one, 3H-pyrido[3,4-d]pyrimidin-4-one and 3H-pyrido[4,3-d]pyrimidin-4-one.

42. (Currently amended) A compound ~~comprising~~ of Formula XX:



XX

wherein

Q is ~~selected from the group consisting of~~ CO, ~~CS, SO, SO$_2$, or C=NR$_9$~~;

J, K, L, and M are each independently selected from the group of CR_{12} and N;

R_1 is -ZR_m, where Z is a moiety providing ~~1-6~~ 1 atom separation between R_m and the ring to which R_1 is attached, and -R_m is ~~selected from the group consisting of a substituted or unsubstituted (C$_3$-$_7$)cycloalkyl and~~ an aryl substituted with a substituent selected from the group consisting of (C_1-$_{10}$)alkyl, (C_{3-12})cycloalkyl, hetero(C_{2-12})cycloalkyl, aryl(C_1-$_{10}$)alkyl, heteroaryl(C_1-$_5$)alkyl, (C_{9-12})bicycloaryl, hetero(C_{4-12})bicycloaryl, carbonyl (C_{1-3})alkyl, thiocarbonyl (C_{1-3})alkyl, sulfonyl (C_{1-3})alkyl, sulfinyl (C_{1-3})alkyl, imino (C_{1-3})alkyl, amino, aryl, heteroaryl, hydroxy, alkoxy, aryloxy, heteroaryloxy, carbonyl, cyano, nitro, halo, imino, sulfonyl and sulfinyl groups;

R_2 is -UV, where U is a moiety providing ~~1-6~~ 3 atom separation between V and the ring to which R_2 is attached and V comprises a primary, secondary or tertiary amine, a heterocycloalkyl comprising a nitrogen ring atom, or a heteroaryl comprising a nitrogen ring atom wherein the amine, heterocycloalkyl or heteroaryl comprises a basic nitrogen atom that is capable of interacting with a carboxylic acid side chain of an active site residue of a protein;

~~R$_9$ is hydrogen or is selected from the group consisting of alkyl, cycloalkyl, heterocycloalkyl, arylalkyl, heteroarylalkyl, bicycloaryl, and heterobicycloaryl, each substituted or unsubstituted;~~ and

each R_{12} is hydrogen or is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, cyano, nitro, alkoxy, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted.

43. (Original) A compound according to claim 42, wherein the compound is a compound where J, K, L and M each comprise a carbon ring atom.

44. (Original) A compound according to claim 42, wherein the compound is a compound where J comprises a nitrogen ring atom.

45. (Original) A compound according to claim 42, wherein the compound is a compound where K comprises a nitrogen ring atom.

46. (Original) A compound according to claim 42, wherein the compound is a compound where L comprises a nitrogen ring atom.

47. (Original) A compound according to claim 42, wherein the compound is a compound where M comprises a nitrogen ring atom.

48. (Original) A compound according to claim 42, wherein the compound is a compound where J and L each comprise a nitrogen ring atom or J and K each comprise a nitrogen ring atom.

49. (Original) A compound according to claim 42, wherein the compound is a compound where K and L each comprise a nitrogen ring atom.

50. (Original) A compound according to claim 42, wherein the compound is a compound where K and M each comprise a nitrogen ring atom.

51. (Original) A compound according to claim 42, wherein the compound is a compound where J and M each comprise a nitrogen ring atom or L and M each comprise a nitrogen ring atom.

52. (Original) A compound according to claim 42, wherein at least two of J, K, L and M comprise a nitrogen ring atom.

53. (Original) A compound according to claim 42, wherein at least three of J, K, L and M comprise a nitrogen ring atom.

54. (Original) A compound according to claim 42, wherein the ring formed by J, K, L, and M comprises substituents that form a ring fused to or bridged to the ring formed by J, K, L, and M.

55. (Original) A compound according to claim 42, wherein K is CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, cyano, nitro, alkoxy, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted.

56. (Original) A compound according to claim 42, wherein K is CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, alkyl, aryloxy, heteroaryloxy, amino, and alkoxy, each substituted or unsubstituted.

57. (Original) A compound according to claim 42, wherein K is CR_{12}, where R_{12} is independently selected from the group consisting of heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryl, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, thio, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted.

58. (Original) A compound according to claim 42, wherein K is CR_{12}, where R_{12} is independently selected from the group consisting of chloro, bromo, fluoro, iodo, methoxy, morpholin-4-yl, and pyrrolidin-1-yl, each substituted or unsubstituted.

59. (Original) A compound according to claim 42, wherein L is CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, cyano, nitro, alkoxy, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted.

60. (Original) A compound according to claim 42, wherein L is CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, alkyl, aryloxy, heteroaryloxy, amino, morpholin-4-yl, and pyrrolidin-1-yl, and alkoxy, each substituted or unsubstituted.

61. (Original) A compound according to claim 42, wherein K and L are independently CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, alkoxy, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted.

62. (Original) A compound according to claim 42, wherein:

K is CR_{12}, where R_{12} is independently selected from the group consisting of halo, perhalo(C_{1-10})alkyl, CF_3, cyano, nitro, alkyl, aryl, heteroaryl, aminosulfonyl, alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, aryloxy, heteroaryloxy, arylalkyl, heteroarylalkyl, cycloalkyl, heterocycloalkyl, amino, thio, alkoxy, a carbonyl group, imine group, sulfonyl group and sulfinyl group, each substituted or unsubstituted; and

L is nitrogen.

63 - 114. (Cancelled)